EMOTION DETECTOR

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CONTENT

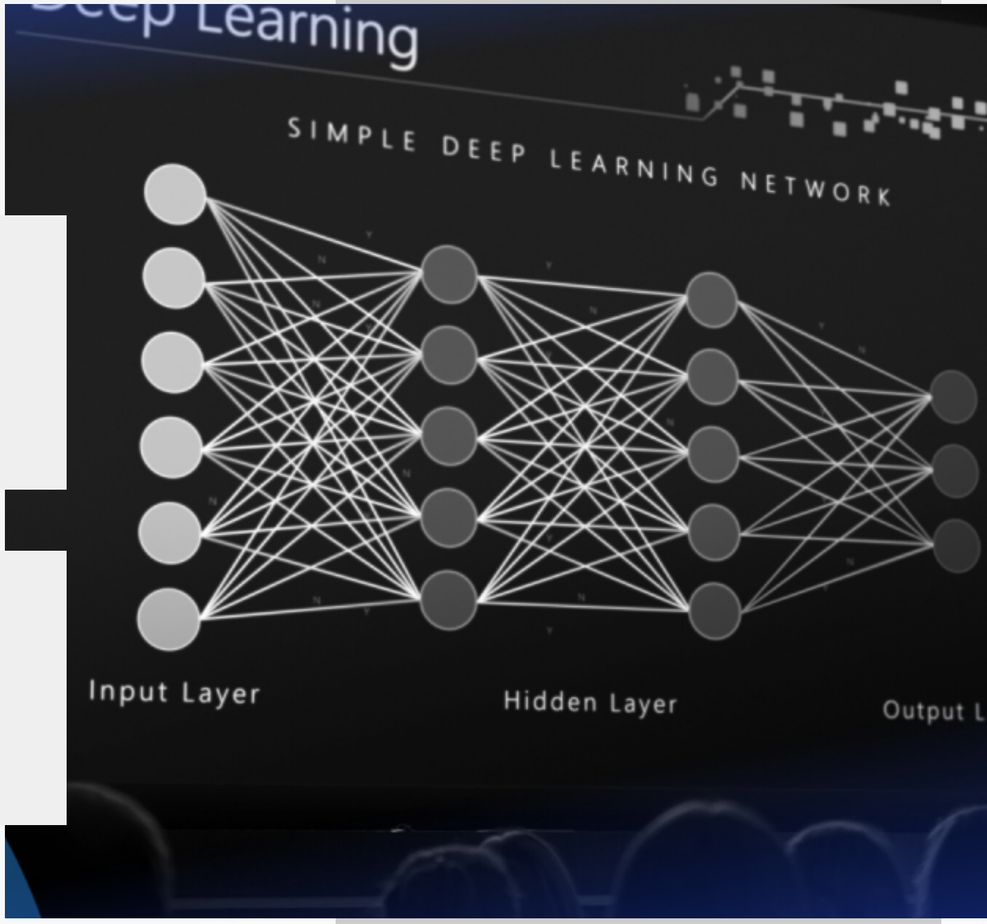
INTRODUCTION

Welcome to the Emotion Detector!

WHAT IS IT?

This project is a web application that uses computer vision and deep learning to detect facial emotions in real-time.

Users can interact with the application by turning on their webcam, taking a snapshot of their face and the application will detect their emotions in real-time.



TECH STACK

Exploring the tools used in building the project

TECH STACK

- HTML
- CSS
- JavaScript
- Bootstrap
- ScrollReveal.js

FRONTEND

- Flask
- OpenCV (cv2)
- NumPy
- Tensorflow
- PIL
- Base64

BACKEND

- Git
- GitHub

VCS

HOW IT WORKS

Diving into the intricacies of each component's functionality

01

SNAPSHOT

Users can interact with the application by turning on their webcam and taking a snapshot of their face.

02

GRAYSCALE

The captured image is processed using OpenCV and converted to grayscale for face detection.

03

HAAR CASCADE

The Haar cascade classifier is used to detect faces in the grayscale image. If a face is detected, the application draws a rectangle around the face and crops the image to focus on the detected face.

04

RESIZE

The cropped image is resized to a fixed size and converted to a numpy array.

05

PREDICTION

The model predicts the emotion label for the processed image from a set of predefined classes such as Anger, Disgust, Fear, Happy, Neutral, Sadness, and Surprise.

06

LABEL OVERLAY

The predicted emotion label is overlaid on the original image, and the resulting image is encoded as a JPEG string.

07

RESPONSE

The web application sends the predicted emotion label and the encoded image back to the user interface for display.

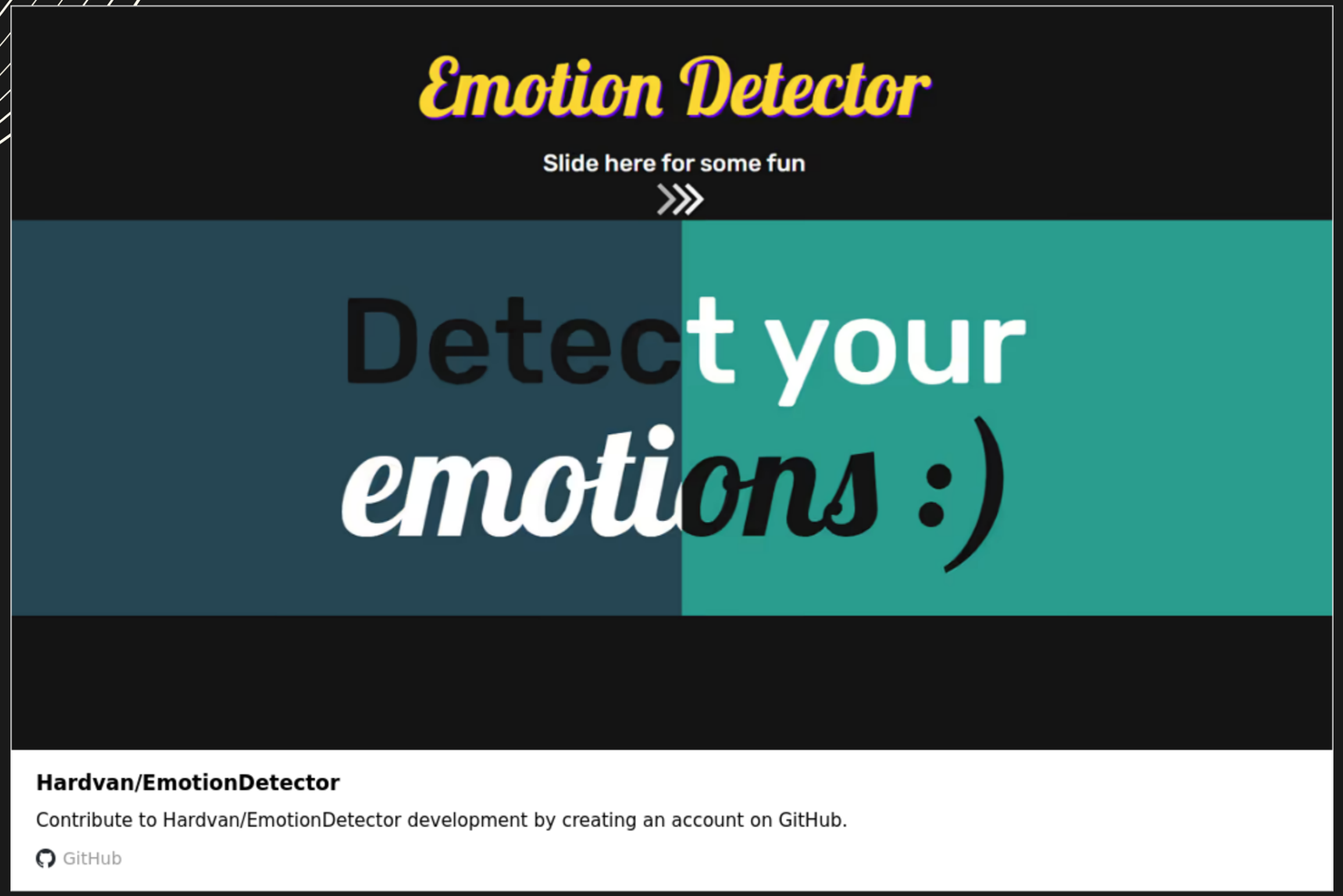
08

RESULT

The user can see the original snapshot and the predicted emotion alongside it.

DEMONSTRATION

Let's view the website live in action!



WEBSITE LINK

RESOURCES

For more information about the project

RESOURCES

JupyterNotebook

Contains information about the data preprocessing, model architecture & training. Results visualization & model accuracy calculations are also displayed.

GitHub Repository

Contains the source code for the "Emotion Detector" Project. Feel free to explore & contribute to the project if you wish to!

THANK YOU